OREGON GRADE 3 MATHEMATICS

GRADE LEVEL GUIDANCE

OREGON
DEPARTMENT OF
EDUCATION

OREGON
MATH PROJECT
Meaningful Math for Every Student

Oregon Math Standards
GRADE 3

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Meaningful Math for Every Student

Contents

OREGON MATH PROJECT

The Oregon Math Project (OMP) advances mathematics education in our state by cultivating a network of educators that promotes equitable math experiences for all students through guidance and the support of policies, standards, curricula, assessments, and instructional best practices. Realizing the vision of math education in Oregon includes ensuring that all students attain mathematics proficiency by having access to high-quality instruction that includes challenging and coherent content in a learning environment where each student receives the support they need to succeed in mathematics.

Please visit the OMP website to learn more about the project and opportunities to connect with this work.

CLARIFYING DOCUMENTS

The intent of clarifying statements is to provide additional guidance for educators to communicate the intent of the 2021 Oregon math standards to support the future development of aligned curricular resources and assessments.

Clarifying statements can be in the form of succinct sentences or paragraphs that attend to one of four types of clarifications: (1) Student Experiences; (2) Examples; (3) Boundaries; and (4) Connection to Math Practices.

Please use this form to provide suggestions to the Oregon Math Standards and/or Guidance document.

Questions, comment, or suggestions can also be emailed to: ODE.MathProject@ode.oregon.gov

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Grade 3 Overview

Critical Areas of Focus

In Grade 3, instructional time should focus on four critical areas:

1. Developing understanding of multiplication and division and strategies for multiplication and division within 100;
2. Developing understanding of fractions, especially unit fractions (fractions with numerator 1);
3. Developing understanding of the structure of rectangular arrays and of area; and
4. Describing and analyzing two-dimensional shapes.

Link to summary of Grade 3 Critical Areas

Students should spend the large majority[1] of their time on the major work of the grade (■). Supporting work (□) and, where appropriate, additional work (○) can engage students in the major work of the grade.

[1]At least 65% and up to approximately 85% of class time, with Grades K–2 nearer the upper end of that range, should be devoted to the major work of the grade. For more information, see the K-8 major work of the grade developed by Student Achievement Partners

DOMAINS AND CLUSTERS

3.OA - Algebraic Reasoning: Operations

■ 3.OA.A Represent and solve problems involving multiplication and division.

■ 3.OA.B Understand properties of multiplication and the relationship between multiplication and division.

■ 3.OA.C Multiply and divide within 100.

■ 3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3.NBT - Numeric Reasoning: Base Ten Arithmetic

○ 3.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic.

3.NF - Numeric Reasoning: Fractions

■ 3.NF.A Develop understanding of fractions as numbers.

3.GM - Geometric Reasoning and Measurement

□ 3.GM.A Reason with shapes and their attributes.

■ 3.GM.B Solve problems involving measurement and estimation.

■ 3.GM.C Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

○ 3.GM.D Geometric measurement: recognize perimeter.

3.DR - Data Reasoning (3.DR)

□ 3.DR.A Pose investigative questions and collect/consider data.

○ 3.DR.B Analyze, represent, and interpret data.

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Grade 3 Math Standards (2021)

ALGEBRAIC REASONING: OPERATIONS (3.OA)

3.OA.A   *Represent and solve problems involving multiplication and division.*

3.OA.A.1   Represent and interpret multiplication of two factors as repeated addition of equal groups.

3.OA.A.2   Represent and interpret whole-number quotients as dividing an amount into equal sized groups.

3.OA.A.3   Use multiplication and division within 100 to solve problems in authentic contexts involving equal groups, arrays, and/or measurement quantities.

3.OA.A.4   Determine the unknown number in a multiplication or division equation relating three whole numbers by applying the understanding of the inverse relationship of multiplication and division.

3.OA.B   *Understand properties of multiplication and the relationship between multiplication and division.*

3.OA.B.5   Apply properties of operations as strategies to multiply and divide.

3.OA.B.6   Understand division as an unknown-factor in a multiplication problem.

3.OA.C   *Multiply and divide within 100.*

3.OA.C.7   Fluently multiply and divide within 100 using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.

3.OA.D   *Solve problems involving the four operations, and identify and explain patterns in arithmetic.*

3.OA.D.8   Solve two-step problems in authentic contexts that use addition, subtraction, multiplication, and division in equations with a letter standing for the unknown quantity.

3.OA.D.9   Identify and explain arithmetic patterns using properties of operations, including patterns in the addition table or multiplication table.

NUMERIC REASONING: BASE TEN ARITHMETIC (3.NBT)

3.NBT.A   *Use place value understanding and properties of operations to perform multi-digit arithmetic.*

3.NBT.A.1   Use place value understanding to round whole numbers within 1000 to the nearest 10 or 100.

3.NBT.A.2   Fluently add and subtract within 1000 using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.

3.NBT.A.3   Find the product of one-digit whole numbers by multiples of 10 in the range 10-90, such as 9 x 80. Students use a range of strategies and algorithms based on place value and properties of operations.

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NUMERIC REASONING: FRACTIONS (3.NF)

3.NF.A   *Develop understanding of fractions as numbers.*

3.NF.A.1   Understand the concept of a unit fraction and explain how multiple copies of a unit fraction form a non-unit fraction.

3.NF.A.2   Understand a fraction as a number on the number line; Represent fractions on a number line diagram.

3.NF.A.3   Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

GEOMETRIC REASONING AND MEASUREMENT (3.GM)

3.GM.A   *Reason with shapes and their attributes.*

3.GM.A.1   Understand that shapes in different categories may share attributes and that shared attributes can define a larger category.

3.GM.A.2   Partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole.

3.GM.B   *Solve problems involving measurement and estimation.*

3.GM.B.3   Tell, write, and measure time to the nearest minute. Solve problems in authentic contexts that involve addition and subtraction of time intervals in minutes.

3.GM.B.4   Measure, estimate and solve problems in authentic contexts that involve liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).

3.GM.C   *Geometric measurement: understand concepts of area and relate area to multiplication and to addition.*

3.GM.C.5   Recognize area as an attribute of plane figures and understand concepts of area measurement presented in authentic contexts by tiling and counting unit squares.

3.GM.C.6   Measure areas by counting standard and non-standard unit squares.

3.GM.C.7   Relate area to multiplication and addition. Use relevant representations to solve problems in authentic contexts.

3.GM.D   *Geometric measurement: recognize perimeter.*

3.GM.D.8   Solve problems involving authentic contexts for perimeters of polygons.

DATA REASONING (3.DR)

3.DR.A   *Pose investigative questions and collect/consider data.*

3.DR.A.1   Generate questions to investigate situations within the classroom, school or community. Collect or consider measurement data that can naturally answer questions by using information presented in a scaled picture and/or bar graph.

3.DR.B   *Analyze, represent, and interpret data.*

3.DR.B.2   Analyze measurement data with a scaled picture graph or a scaled bar graph to represent a data set with several categories. Interpret information presented to answer investigative questions.